

**CLAIMS**

## 1. Absorption refrigerator (1) including

- a cabinet having outer walls (2, 3, 4, 5, 6) and at least one door (7, 8) encasing a low temperature storage compartment (9) and a higher temperature storage compartment (10), said compartments being separated by a partition wall (11),

- an absorption refrigerating system including an evaporator tube (20) in which a refrigeration medium flows from an upstream end to a downstream end of the evaporator tube, and which evaporator tube comprises a first tube section (21) which is arranged to absorb heat from the low temperature compartment, and at least a second tube section (22), which is arranged to absorb heat from the higher temperature compartment,

- a battery arranged to supply power to electronic equipment in said absorption refrigerating system,

- a control system arranged to control start and stop of said absorption refrigerating system to control the temperature in at least said higher temperature storage compartment to be within a specified temperature range, and

- a heater arranged in said higher temperature storage compartment provided to apply heat to said higher temperature compartment,

**characterized in that,**

- said control system comprises a sensor arranged to detect if said battery is currently charged or if AC-power is available,

- said control system is arranged to set freezer control values to a first set of freezer control values if said battery is charged or if AC-power is available and to a

second set of freezer control values if said battery is not charged or if AC-power is not available, where at least one of the values in said second set of freezer control values is higher than both values in said first set of freezer control values.

2. Absorption refrigerator according to claim 1, wherein  
- said freezer control values are provided to control start and/or stop of said absorption refrigerating system.

3. Absorption refrigerator according to claim 1, wherein  
- said freezer control values are provided to control application of heat in said higher temperature compartment.

4. Absorption refrigerator according to claim 1, wherein  
- said freezer control values comprises a higher freezer temperature threshold and a lower freezer temperature threshold.

5. Absorption refrigerator according to claim 4, wherein said control system is provided to control the temperature in said higher and lower temperature compartments by:  
- starting said absorption refrigerating system if either  
    - the temperature in said higher temperature compartment is above said specified temperature range or  
    - the temperature in said lower temperature compartment is above said higher freezer temperature threshold, and  
- stopping said absorption refrigerating system if both  
    - the temperature in said higher temperature compartment is below said specified temperature range, and

- the temperature in said lower temperature compartment is below said lower freezer temperature threshold.

6. Absorption refrigerator according to claim 1, wherein

5       - said control system is provided to control the temperature in said higher temperature storage compartment by starting said absorption refrigerating system if the temperature in said higher temperature storage department is above said specified temperature range and stop said absorption refrigerating system if  
10       the temperature in said higher temperature storage department is below said specified temperature range.

7. Absorption refrigerator according to claim 1, wherein

15       - said control system is provided to apply heat to said higher temperature compartment if the temperature in said higher temperature compartment is below a first specified temperature and stop application of heat if the temperature in said higher temperature compartment rises above a second specified temperature.

20       8. Absorption refrigerator according to claim 4, wherein

      - said control system is provided to stop application of heat to said higher temperature compartment if the temperature in said lower temperature compartment is below said lower freezer temperature threshold.

25       9. Absorption refrigerator according to claim 1, wherein

      - said heater is powered by said battery.

10.     Absorption refrigerator according to claim 1, wherein

      - said heater is also used for defrosting purposes.

11.     Absorption refrigerator according to claim 2, wherein

30       - said first set of freezer control values comprises a

higher freezer temperature threshold in the range of  $-14^{\circ}$  to  $-18^{\circ}$  Celsius, preferably  $-16^{\circ}$  Celsius, and a lower freezer temperature threshold in the range of  $-20^{\circ}$  to  $-16^{\circ}$  Celsius, preferably  $-18^{\circ}$  Celsius, and

5 - said second set of freezer control values comprises a higher freezer temperature threshold in the range of  $-10^{\circ}$  to  $-14^{\circ}$  Celsius, preferably  $-12^{\circ}$  Celsius, and a lower freezer temperature threshold in the range of  $-16^{\circ}$  to  $-12^{\circ}$  Celsius, preferably  $-14^{\circ}$  Celsius.

10 12. Method for controlling the temperature in an absorption refrigerator (1), wherein said refrigerator includes

15 - a cabinet having outer walls (2, 3, 4, 5, 6) and at least one door (7, 8) encasing a low temperature storage compartment (9) and a higher temperature storage compartment (10), said compartments being separated by a partition wall (11),

20 - an absorption refrigerating system including an evaporator tube (20) in which a refrigeration medium flows from an upstream end to a downstream end of the evaporator tube, and which evaporator tube comprises a first tube section (21) which is arranged to absorb heat from the low temperature compartment, and at least a second tube section (22), which is arranged to absorb  
25 heat from the higher temperature compartment,

- a battery arranged to supply power to said absorption refrigerating system during at least part of the operating time for said absorption refrigerator, and

30 - a heater arranged in said higher temperature storage compartment provided to apply heat to said higher temperature compartment,

**characterized in the steps of,**

- detecting if said battery is currently charged or if AC-power is available,

- setting freezer control values to a first set of freezer control values if said battery is charged or if

AC-power is available, and

- setting said freezer control values to a second set of freezer control values if said battery is not charged or if AC-power is not available, wherein

- at least one of the values in said second set of freezer control values is higher than both values in said first set of freezer control values.

13. The method according to claim 12, comprising the step of:

- controlling start and/or stop of said absorption refrigerating system in dependence of the temperature in said low temperature compartment and said freezer control values.

14. The method according to claim 12, comprising the step of:

- controlling application of heat in said higher temperature compartment in dependence of the temperature in said low temperature compartment and said freezer control values.

15. The method according to claim 12, wherein

- said freezer control values comprises a higher freezer temperature threshold and a lower freezer temperature threshold.

16. The method according to claim 15, comprising the step of:

- starting said absorption refrigerating system if either  
- the temperature in said higher temperature

compartment is above a specified temperature range or  
- the temperature in said lower temperature  
compartment is above said higher freezer temperature  
threshold, and

5 - stopping said absorption refrigerating system if both  
- the temperature in said higher temperature  
compartment is below said specified temperature range,  
and

10 - the temperature in said lower temperature  
compartment is below said lower freezer temperature  
threshold.

17. The method according to claim 12, comprising the  
steps of:

15 - controlling the temperature in said higher temperature  
storage compartment by starting said absorption  
refrigerating system if the temperature in said higher  
temperature storage department is above a specified  
temperature range, and

20 - stopping said absorption refrigerating system if the  
temperature in said higher temperature storage department  
is below said specified temperature range.

18. The method according to claim 12, comprising the  
steps of:

25 - applying heat to said higher temperature compartment if  
the temperature in said higher temperature compartment is  
below a first specified temperature and

- stopping application of heat to said higher temperature  
compartment if the temperature in said higher temperature  
compartment is above a second specified temperature.

30 19. The method according to claim 15, comprising the step  
of:

- stopping application of heat to said higher temperature

compartment if the temperature in said lower temperature compartment is below said lower freezer temperature threshold.

20. Method for controlling the temperature in an

absorption refrigerator (1), wherein said refrigerator includes

- a cabinet having outer walls (2, 3, 4, 5, 6) and at least one door (7, 8) encasing a low temperature storage compartment (9) and a higher temperature storage compartment (10), said compartments being separated by a partition wall (11),

- an absorption refrigerating system including an evaporator tube (20) in which a refrigeration medium flows from an upstream end to a downstream end of the evaporator tube, and which evaporator tube comprises a first tube section (21) which is arranged to absorb heat from the low temperature compartment, and at least a second tube section (22), which is arranged to absorb heat from the higher temperature compartment, and

- a heater arranged in said higher temperature storage compartment provided to apply heat to said higher temperature compartment,

**characterized in the steps of,**

- starting said absorption refrigerating system if either

- the temperature in said higher temperature compartment is above said specified temperature range or

- the temperature in said lower temperature compartment is above a higher freezer temperature threshold, and

- stopping said absorption refrigerating system if both

- the temperature in said higher temperature compartment is below said specified temperature range, and

- the temperature in said lower temperature compartment is below a lower freezer temperature threshold.

21. The method according to claim 20, comprising the step  
5 of:

- controlling application of heat in said higher temperature compartment in dependence of the temperature in said low temperature compartment and said lower and higher freezer temperature thresholds.

10 22. The method according to claim 20, comprising the steps of:

- applying heat to said higher temperature compartment if the temperature in said higher temperature compartment is below a first specified temperature and

15 - stopping application of heat to said higher temperature compartment if the temperature in said higher temperature compartment is above a second specified temperature.

23. The method according to claim 20, comprising the step  
of:

20 - stopping application of heat to said higher temperature compartment if the temperature in said lower temperature compartment is below said lower freezer temperature threshold.